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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,281	01/28/2005	Sei Yamasaki	040709	7441

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ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER	
ADDIE, RAYMOND W	

ART UNIT	PAPER NUMBER
3671	

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/520,281	YAMASAKI ET AL.	
	Examiner	Art Unit	
	Raymond W. Addie	3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04//21/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the Abstract is in single sentence form. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. JP 2001-159107.

Yamazaki et al. discloses a collision buffering body for road ways comprising:

At least one shock absorber (6) that deforms upon a collision of a vehicle.

A support (2) for supporting the at least one shock absorber.

A holding portion (1) that holds the support in a vertical position in an installation area.

A release portion (4/7) that fractures upon application of a load equal to or exceeding a set value, to release the support from being held in a vertical position.

The support capable of being plastically deformable by a load lower than the set value.

See Translated Abstract.

In regards to claim 2, the support is a pipe-like member.

The holding portion (1) comprises a connection portion (7) fixed on a lower part of the support and anchor bolts (4) are implanted in the installation area.

The anchor bolts being capable of fracturing upon application of a load equal to or greater than the set value.

See Abstract.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Medley, Jr. # 3,838,661.

Medley, Jr. discloses a vehicle impact attenuator (10) comprising:

A shock absorber (48) of plastic type material.

A support (46) for the shock absorber (48).

A holding portion (20) that holds the support in a vertical position.

Wherein the holding portion has a release portion (60) that fractures upon application of a load that is equal to or exceeds a set value, to thereby release the support (46) from being held in said vertical position. The support being made of a plastically deformable material and deformable by a load lower than the set value. See cols. 1-3; Figs. 1-2.

4. Claims 1, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Leach et al. # 3,717,326.

Leach discloses a collision buffering body for road ways comprising:

At least one shock absorber (20) that deforms upon a collision of a vehicle.

At least one support (17) for supporting the at least one shock absorber.

A holding portion (18) that holds the support in a vertical position in an installation area.

A release portion (56, 68) that fractures upon application of a load equal to or exceeding a set value, to release the support from being held in a vertical position.

Wherein a plurality of the supports (17) are held adjacent to each other in the installation area and the shock absorber is supported by all of the supports.

The support (17) being capable of plastically deforming by a load lower than the set value. See Cols. 1-2.

5. Claims 1, 2, 4, 11/2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirotaka # JP 10-176314.

Hirotaka discloses a vehicle impact attenuator (1) comprising:

A shock absorber (2/3).

A plurality of pipe-like supports (5) for the shock absorber (48).

A holding portion (5a) that holds the support in a vertical position.

An internal cushioning material (7) disposed within the at least one pipe-like support.

Wherein the holding portion has a release portion (unnumbered) that fractures upon application of a load that is equal to or exceeds a set value, to thereby release the supports (5) from being held in said vertical position. The support being made of a plastically deformable material and deformable by a load lower than a set value. The holding portion further having a connecting portion (6b) fixed on a lower portion of said support via a plurality of anchor bolts, that function as the release portion. The anchor bolts being capable of fracturing upon application of a load equal to or exceeding the set value. The pipe-like supports being capable of plastic deformation as a flattening of the pipe-like member. See translated Abstract Figs. 1-2.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maestri #4,183,505 in view of Kuykendall et al. # 4,432,172.

Maestri discloses a vehicle impact attenuator comprising:

A shock absorber (10, 10a) capable of deforming plastically upon a vehicle collision.

A support (12) for supporting the shock absorber.

A holding portion (14), further comprising: A burying hole formed in the installation area to accommodate a lower portion (14) of the support (12).

What Maestri does not disclose is the use of "fracture zones" of intended failure. However, Kuykendall et al. teaches it is old and well known to provide fracture zones in traffic support poles (10), in the form of drilled holes (11-14) or slots (15-17) in the support (10) such that the cuts serve as fracture starting points when a load equal to or exceeding the set value is applied and functions as the release portion.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the guard posts of Maestri, with fracture zones, as taught by Kuykendall et al., in order to reduce the damage caused to an impacting vehicle. See Cols. 1, 2, 5.

7. Claims 1, 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Svensson # 4,196,550 in view of Maestri # 4,183,505.

Svensson discloses a vehicle impact attenuator comprising:

A shock absorber (4) capable of deforming plastically upon a vehicle collision.

A pipe-like support (2) for supporting the shock absorber.

A plurality of fracture zones" of intended failure, in the form of longitudinal slits (1). The cuts serve as fracture starting points when a load equal to or exceeding a set value is applied, and functions as a release portion. Such that plastic deformation of the support (2) occurs as a flattening of the pipe-like member.

What Svensson does not disclose is how the attenuator is mounted to a roadway or the ground. However, Maestri teaches it is known to provide impact attenuators with:
A holding portion (14), further comprising: A burying hole formed in the installation area
to accommodate a lower portion (14) of a support (12).
Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the vehicle attenuator of Svensson, with a holding portion, buried in the ground or roadway, as taught by Maestri, in order to secure the attenuator in a vertical, operational condition. See Svensson Cols. 1-2; figs. 2-3; Maestri cols. 2-3; Figs. 1-4.

8. Claims 5, 8/5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medley, Jr. # 3,838,661 in view of Andonian # 5,207,175.
Medley, Jr. discloses a vehicle impact attenuator (10) As put forth with respect to claim 1, above, to include the use of a steel spring coil that plastically deforms upon application of a load equal to or exceeding a predetermined value is further provided. What Medley, Jr. does not disclose is burying the attenuator in the ground. However, Andonian teaches spring supported attenuators are equitably supported either on a trafficable surface, via a fitting member (5), that approximately retains its original shape after a collision, and either: A flat metal base (9) or alternatively supported in the ground, via a spiked base (1) capable of being pushed or hammered into the ground.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the attenuator of Medley, Jr. with a spiked base, as taught by Andonian, in order to position the attenuator in the ground, to slow a vehicle inadvertently existing a roadway or other trafficable surface. See Andonian Cols. 2-3; Figs. 1-4.

With respect to claim 6, Medley, Jr. clearly discloses the use of steel in providing the coil spring. What Medley, Jr. does not disclose is the dimensions of the spring. However, Andonian teaches it is obvious to form the spring "of sufficient size and strength to restore the marker post to its original upright position after impact". Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the attenuator of Medley, Jr., with a spring of sufficient size and strength for the intended application. See Andonian Col. 3, Ins. 18-25.

9. Claim 3, 4, 8/3, 8/4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotaka # JP 10-176314 in view of Svensson 4,196,550.
Hirotaka discloses essentially all that is claimed, to include a holding portion comprising a burying hole to accommodate a lower part of the support, the support being pipe-like. As well as, the use of a fitting member (6A) that has the strength sufficient to retain its original shape after the fracture of the release portion (5A).

What Hirotaka does not disclose is providing "fracture zones" in the supports. However, Svensson teaches it is known to provide a plurality of fracture zones" of intended failure, in the form of longitudinal slits (1). The cuts serve as fracture starting points when a load equal to or exceeding a set value is applied, and functions as a release portion. Such that plastic deformation of the support (2) occurs as a flattening of the pipe-like member. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the attenuator of Hirotaka, with a plurality of cuts, as taught by Svensson, in order to form a fracture zone of intended failure, that reduces the incidence of damage to a vehicle colliding with said attenuator. See Svensson Cols. 1-2; figs. 2-3.

10. Claims 9/2, 9/4, 10/2, 10/4, 11/2, 11/4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotaka # JP 10-176314 in view of Kuykendall et al. # 4,432,172.

Hirotaka discloses essentially all that is claimed, to include the use of pipe-like support members (5) made of either iron or plastic but does not disclose the yield strength of the attenuator assembly. However, Kuykendall et al. teaches it is known to modify support post with an internal cushioning material (5b) impact attenuating support posts must be capable of accommodating specific size vehicles, such as 1000 Kg, traveling at specific speeds, such as 30Km/hr.

Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to make the impact attenuator of Hirotaka, to have a fracture load range of 50Kn or more, in order to accommodate specific size vehicle and thus minimizing driver injury, as reasonably suggested by Kuykendall et al. See col. 2.

11,. Claims 9/5, 10/9/5, 11/5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medley, Jr. # 3,838,661 in view of Andonian # 5,207,175 as applied to claim 5 above, and further in view of Kuykendall et al. # 4,432,172.
Medley, Jr. in view of Andonian discloses essentially all that is claimed, but does not disclose a desired load strength for the support member. However, Kuykendall et al. teaches it is known impact attenuating support posts must be capable of accommodating specific size vehicles, such as 1000 Kg, traveling at specific speeds, such as 30Km/hr. Kuykendall et al. further discloses support posts can be modified with weakened zones, optionally filled with a compressive material, to customize the load strength of each support post. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to make the impact attenuator of Medley, Jr. in view of Andonian, to have a fracture load range of 50Kn or more, in order to accommodate specific size vehicle, and thus minimizing driver injury, as reasonably suggested by Kuykendall et al. See col. 2.

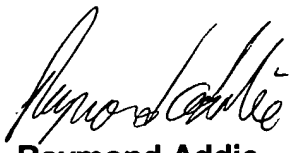
Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Crankshaw # 3,193,230 discloses a vehicle attenuator. Graham # 3,308,584 discloses a vehicle attenuator. Harrington # 3,602,109 discloses a vehicle attenuator. Fitch # 3,880,404 discloses a vehicle attenuator. Diedershagen et al. # 4,106,879 discloses a vehicle attenuator. Deike # 3,972,107 discloses a method for forming fracture zones in highway posts. Laehy et al. # 4,270,873 discloses a spring biased support post, see figs. 1-3. Glaesener # 4,290,585 discloses a vehicle attenuator system. Blau # 4,373,464 discloses a vehicle attenuator. Krage et al. # 4,784,515 discloses a vehicle attenuator. Beavers # 5,597,262 Carter # 5,703,577 discloses a self-righting vehicle attenuator, see Fig. 5. Venegas, Jr. # 5,809,733 discloses a traffic bollard. Haga et al. # 6,059,487 discloses an impact attenuator. Lewis, Sr. et al. # 6,454,488 B1 discloses an impact attenuator. Lewis et al., # 6,502,805 B2 discloses an impact attenuator system. Kim # 6,520,711 B2 discloses a vehicle attenuator.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond W. Addie whose telephone number is 571 272-6986. The examiner can normally be reached on 6AM-2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 571 272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Raymond Addie
Primary Examiner
Group 3600

6/7/06